**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

XR COMMUNICATIONS, LLC, dba VIVATO TECHNOLOGIES, Plaintiff, vs. AT&T SERVICES INC., ET AL., Defendants. ERICSSON, INC. ET AL., Intervenors.	Case No. 2:23-cv-00202-JRG-RSP (**LEAD CASE**) **JURY TRIAL DEMANDED**

DEFENDANTS' / INTERVENORS' RESPONSIVE CLAIM CONSTRUCTION BRIEF

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I.   INTRODUCTION

This case involves 60 claims across 4 patents. The parties' narrowed list of 10 terms require construction because XR: (i) proposes constructions that divert from the plain and ordinary meaning, import limitations from the specifications and introduce intent into the claims, (ii) seeks to avoid the limitations of §112 ¶6, despite the terms plainly not disclosing structure for performing claimed functions and/or (iii) proposes constructions that divert from the intrinsic record, including XR's previous proposed constructions, such as those before the Patent Trial and Appeal Board.

II.   THE '369 PATENT

A.   The Pre-Equalization Terms

This dispute involves the meaning of "pre-equalization" parameter in the context of the surrounding claim language. To start, the claims explicitly describe the pre-equalization parameter both in terms of what it is based on and for what it is used. Claim 1 is representative:

> determining at least one forward path *pre-equalization* parameter based on said at least one transmission delay; and modifying a forward path data signal that is to be transmitted to the receiving device based on said at least one forward path *pre equalization* parameter, where said modifying includes selectively setting different transmission power levels for at least two Orthogonal Frequency Division Multiplexing (OFDM) tones in said forward path data signal.

Ex. 1 at 16:61-17:3.[1] Based on the plain language, a POSA would understand pre-equalization parameter to mean a parameter that is "determin[ed] … based on said at least one transmission delay" and used to "modify[] a forward path data signal…, where said modifying includes selectively setting different transmission power levels for at least two [(OFDM)] tones." The claim provides the necessary context and no further construction is necessary. Nevertheless, XR proposes to interject an intent element into the claim through the phrase: "to reduce unwanted

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[1] To avoid duplicative exhibits, Defendants shall refer to Plaintiff's exhibit numbers (*i.e.*, Exs.1-13) and add additional exhibits sequentially following Plaintiff's last exhibit.

effects associated with multipath fading." XR's intent-based addition is improper under basic claim construction principles, and already has been rejected by the PTAB.

1. Plaintiff's Construction Is Legally Flawed

XR's proposed redefining of "pre-equalization parameter" to be limited to "to reduce unwanted effects associated with multipath fading between the transmitter and the receiver" is an intent-based limitation that is not consistent with the plain and ordinary meaning, nor supported by lexicography or an applicant's disclaimer. Under XR's construction, it is not enough to perform the steps of the claimed method, but those steps must be performed for an intended purpose. Such an "intent" claim construction is improper. *Sorrell Holdings, LLC v. Infinity Headwear & Apparel, LLC*, 2024 WL 413432 at *6 (Fed. Cir. Feb. 5, 2024) (district court's construction "erroneously required … a design intent requirement").

The *claimed* embodiment (modifying OFDM power levels) is taught in a single passage. Ex. 1, 15:31-63. Notably, this embodiment does not specify an intended purpose. A second embodiment at 14:30-15:29 discusses "parameters" used to "modif[y] each tone" using "channel characteristics" (without teaching that the modification is OFDM tone power levels as claimed). Again, this embodiment also does not specify an intended purpose.

Conspicuously, XR does not cite either embodiment most relevant to claim 1 (15:31-63 and 14:30-15:29) to support its intended purpose. Instead, XR cites several other specification excerpts. Dkt. 81 ("Op. Br.") at 5-6 (citing to 4:44-7:4 and 7:13-21). XR's cited material, however, does not include any recitations related to the *claimed* usage of pre-equalization (modifying OFDM tone power levels). Columns 4 through the top of 7 of the '369 Patent (cited by XR, Op. Br at 5) discuss known techniques – not anything alleged to be invented in the '369 Patent.

Furthermore, while XR does not state a reliance on lexicography, its construction relies on that exact principle without meeting lexicography's stringent bar. "The bar for lexicography is

exacting…Lexicography applies only where the patentee 'clearly set[s] forth a definition of the disputed claim term' and 'clearly express[es] an intent' to redefine the term." *Guardant Health, Inc. v. Vidal*, 2023 WL 3262962, at *5 (Fed. Cir. May 5, 2023) (citations omitted). XR's construction purports to capture the following statement in the specification:

> With these and/or other design considerations in mind, in accordance with certain aspects of the present invention equalization techniques are provided for use at a transmitting node and configured to perform pre-equalization that substantially *reduces unwanted effects associated with multipath fading*, including retro-reflected propagation delays. Such pre-equalization techniques are discussed in greater detail in later sections.

Op. Br., 5-6; Ex. 1, 7:14-21 (italics added). While XR contends that this alone reflects the "plain and ordinary meaning" of pre-equalization, it is not a definitional statement by the applicant.

Finally, in addition to lacking legal and intrinsic support, XR's intended usage construction: (1) renders the claim indefinite; and/or (2) necessitates further constructions to construe the construction. For example, the term "unwanted" implies that some "effects" of multipath may be "wanted." This would require a further construction of how a POSA could distinguish between unwanted and wanted effects.

2. The PTAB Rejected Plaintiff's Construction

Second, XR contends that the PTAB's discussion of this term in a co-pending IPR supports its position. Not so. In reality, the PTAB rejected XR's intent-based addition, holding that XR proposed "inclusion of the phrase 'associated with multipath fading between the transmitter and the receiver' goes beyond the plain and ordinary meaning, as pre-equalization is not so limited." Ex. 12 (Decision) at 16 (*citing* Ex. 14, ¶¶ 284–285 (discussing the meaning of "pre-equalization parameter") *and* Ex. 10 (providing an IEEE definition of "pre-equalization")).

B. "substantially reciprocal to"

This term can be found in a second degree dependent claim. It describes the claimed reverse

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communication path and creates a relationship between that path and the claimed forward communication path. The two paths are "substantially" reciprocal. Defendants contend that this phrase is a term of degree in the context of the specific claim limitation to which it applies, *i.e.*, two communications paths. When a term of degree like "substantially" is used, "the district court must determine whether the patent's specification provides some standard for measuring that degree." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005); *see also Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir 2015); *Interval Licensing LLC v. AOL, Inc.*, 776 F.3d 1364, 1371 (Fed. Cir. 2014) (term indefinite because it was "highly subjective and, on its face, provid[ed] little guidance to one of skill in the art").

In the context of the "two communications paths" limitation, the specification does not provide a definite measuring stick for assessing substantial reciprocity. Instead, by using the wiggle word "substantially" in this context, the patent owner attempts to capture additional claim scope that cannot be reasonably defined by a POSA, leaving a POSA to wonder, how close to reciprocal must the two communication channels be? This Court has found similar claim terms to be indefinite. *Advanced Display Techs. Of Tex., LLC v. AU Optronics Corp.*, 2012 U.S. Dist. LEXIS 96837 at *33-39 (E.D. Tex. July 12, 2012) ("highly modulated" indefinite because "the claims and specification fail[ed] to provide an objective standard to determine whether a surface is 'highly' modulated"); *Intellectual Ventures I LLC v. T-Mobile USA, Inc*., 2018 WL 5809267 at *23-24 (E.D. Tex. Nov. 6, 2018) (claim indefinite because of the use of a "subjective term of degree" without "any limitation placed on the objective boundaries for a POSITA to be able to narrow the nebulous standard").

Seeming to recognize the problem, XR's brief proposes for the first time an actual construction, *i.e.*, reciprocal "for a 'given moment in time.'" Op. Br. at 8. Plaintiff's new

construction, however, does not resolve the uncertainty surrounding the subject phrase. Instead, it confirms the indefiniteness of the term. According to this new proposal, a channel that is reciprocal for even a fleeting instance of time -- but is otherwise wholly non-reciprocal for all other points of time -- would nevertheless qualify as "substantially reciprocal." But given the claimed nature of the substantially reciprocal reverse path from which the pre-equalization parameter is calculated confirms that a mostly non-reciprocal reverse path would not suffice.

Moreover, the '369 Patent does not equate "substantially" with a timing measurement. At 2:13-16, the patent merely refers to "a moment in time" as exemplary. And at 10:61-11:5, the patent makes no reference to substantially at all, and instead states that a channel can be assumed to be reciprocal (not substantially reciprocal) for approximately 10 ms.[2]   In both instances, reciprocity is assumed to exist but for how long must it exist to qualify as substantially reciprocal? Even in this context of time, there is no statement setting forth for how long such reciprocity must exist to qualify as substantially reciprocal. XR invites error by suggesting that any instance of reciprocity, regardless of (i) how long in time, or (ii) how non-reciprocal the channel is at other times, is enough to meet this claim limitation. In short, the patent does not teach with reasonable certainty a POSA how to assess the scope of dependent claim 12 by providing a definite line of demarcation between reciprocal and non-reciprocal channels.

C.   "a plurality of first device receive antennas"

The subject limitation is in dependent claim 19 that depends on claim 15. Claim 15 does not refer to a "first device." It refers to "transmitting" and "receiving" devices. Based on XR's position that the first device is the transmitting device (Op. Br. at 9), Defendants withdraw their proposed construction and agree that no further construction is necessary.

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[2] Plaintiff also cites 7:21-34 and 11:62-66 to support its construction but neither refer to substantially reciprocal channels, no less provide a measuring stick for assessing substantiality.

III.   THE '939 PATENT

A.   Legal Standard for Means-Plus-Function Limitations

In *Williamson v. Citrix Online, LLC,* the Federal Circuit overruled prior decisions which applied "a heightened bar to overcom[e] the presumption that a limitation expressed in functional language without using the word 'means' is not subject to [§112, ¶ 6]."   792 F.3d 1339, 1348-49 (Fed. Cir. 2015) (*en banc* as to Part II.C.1). The Federal Circuit recognized that its prior decisions had "the inappropriate practical effect of placing a thumb on what should otherwise be a balanced analytical scale," "shifted the balance struck by Congress in passing §112, para. 6," and "resulted in a proliferation of functional claiming untethered to §112, para. 6 and free of the strictures set forth in the statute." *Id.* at 1349. Thus, while there remains a presumption that a claim limitation lacking the word "means for" is not subject to §112, ¶ 6, the presumption is not strong and "can be overcome and [§112, ¶ 6] will apply if the challenger demonstrates that the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *Id.* (internal citations omitted).[3]

The threshold test for the application of §112, ¶ 6 is a fact-dependent inquiry: if the limitation-in-dispute lacks the word "means" but recites a function, one *must* consider the recited function to determine whether the particular limitation is subject to §112, ¶6. *Synchronoss Techs.,*

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[3] XR urges this Court to apply an incorrect legal standard, stating that Defendants must show that a claim term "fails to 'recite sufficiently definite structure' *and* recites 'function without reciting sufficient structure for performing that function.'" Op. Br. at 11, 16-17. According to the legal standard, the conjunction should be "or" not "and." Defendants must show that the challenged terms "fail[] to 'recite sufficiently definite structure' *or else* recite[] 'function without reciting sufficient structure for performing that function.'" *Williamson*, 792 F.3d at 1348. Defendants need only show one or the other, not both. This is the third time XR has misstated the law around *Williamson*. *See XR Commc'ns, LLC v. Ruckus Wireless, Inc.*, 2021 WL 3918136, at *5 (N.D. Cal. Sept. 1, 2021) ("[XR] claims that the legal standard quoted in its briefs is taken from [*Zeroclick*], a post-*Williamson* case, but no such quote exists in that opinion"), *aff'd XR Commc'ns, LLC v. ARRIS Solutions, Inc.*, 2023 WL 3529830, at *2-3 (Fed. Cir. May 18, 2023).

Inc. v. Dropbox, Inc., 987 F.3d 1358, 1357 (Fed. Cir. 2021). "The question is not whether a claim term recites *any* structure but whether it recites *sufficient* structure – a claim term is subject to [§112, ¶ 6] if it recites 'function without reciting sufficient structure *for performing that function*.'" *Egenera, Inc. v. Cisco Sys., Inc.*, 972 F.3d 1367, 1374 (Fed. Cir. 2020); *Finesse Wireless v. AT&T Mobility LLC*, 2022 WL 3686478 at *10 (E.D. Tex. Aug. 24, 2022) ("[t]he presumption that this is not a means-plus-function term stands or falls according to whether a skilled artisan would understand the claim with the functional language, in the context of the entire specification, to denote sufficiently definite structure or acts for performing the function"). As shown below, none of the identified terms meet this standard.

B.   "wireless input/output (I/O) unit"

1.   "wireless I/O unit" Is A Means-Plus Function Limitation

Claims 15 and 30 of the '939 Patent both recite "a wireless input/output (I/O) unit that is configured to establish a plurality of access points." While this term does not use "means," the presumption against the application of §112, ¶6 is overcome because the claim does not set forth sufficient structure for performing the claimed function and because a POSA would not understand what a "wireless input/output (I/O) unit" is in the context of the function "establish a plurality of access points." Ex. 15 (Proctor Dec.), ¶¶ 84-96. Means-plus-function claim construction principles dictate that this function be considered because a term may be known to have some structure in some contexts, but may still be a nonce word in other contexts, as dictated by the function to be performed. *See Advanced Ground Info. Sys., Inc. v. Life360, Inc.*, 830 F.3d 1341, 1347-48 (Fed. Cir. 2016) (term "symbol generator" was a means-plus-function limitation even though "symbol" and "generator" had dictionary definitions in the relevant field because "the combination of the terms as used in the context of the relevant claim language suggests that it is simply an abstraction that describes the function being performed" and the term did not "identify a structure by its

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function"). In other words, "wireless input/output (I/O) unit" is not considered in a vacuum, but in the context of the recited function, *i.e.*, "establish a plurality of access points." Ex. 15, ¶ 85; *see also Egenera*, 972 F.3d at 1374 (a term is subject to §112, ¶ 6 if it recites "function without reciting sufficient structure *for performing that function*."); *Finesse Wireless LLC v. AT&T Mobility LLC*, 2022 WL 3686478 at *10 (E.D. Tex. Aug. 24, 2022) ("The presumption that this is not a means-plus-function term stands or falls according to whether a skilled artisan would understand the claim with the functional language, in the context of the entire specification, to denote sufficiently definite structure or acts for performing the function").

Here, as further confirmed by the unrebutted testimony of Mr. Proctor, a POSA would not understand what a "wireless input/output (I/O) unit" is in the context of the claimed function: it is not a term of art, and a POSA would not know what the claimed function means after reviewing the specification. Ex. 15, ¶¶ 87-90. Indeed, the intrinsic record does not disclose any specific structure that corresponds to or even explains what the function "establish a plurality of access points" means. Instead, "wireless input/output (I/O) unit" is treated as a black box that merely describes a "general category of whatever may perform" the function "establish a plurality of access points." *Egenera*, 972 F.3d at 1374; *Williamson*, 792 F.3d at 1350 ("'[M]odule' is simply a generic description for software or hardware that performs a specified function."). Nothing about the term "wireless input/output (I/O) unit" conveys to a POSA the structure for performing the *claimed* function and black box claiming has been prohibited since *Williamson*. *Id.* at 1348-1349, 1351; *Egenera*, 972 F.3d at 1374-1375. As Mr. Proctor explains, the term "wireless input/output (I/O) unit" is not a standard term used in the art and is not associated with performing the recited function. Ex. 15, ¶87.

The presence of the "nonce" term "unit" in the claim language, like other "nonce" terms such as "module," "component," or "device" further indicates the functional nature of the claim term. Ex. 15, ¶ 88. *See, e.g.*, *Diebold Nixdorf, Inc. v. Int'l Trade Comm'n*, 899 F.3d 1291, 1301 (Fed. Cir. 2018) ("the word 'unit' . . . does not, standing alone, connote any particular structure."); *see also Williamson*, 792 F.3d at 1350 ("Generic terms such as 'mechanism,' 'element,' 'device,' and other nonce words that reflect nothing more than verbal constructs may be used in a claim in a matter that is tantamount to using the word 'means' because they 'typically do not connote sufficiently definite structure'"). Further, the prefix to "unit," "wireless input/output (I/O)," does nothing to inform a POSA what structure performs the recited function "establish a plurality of access points." Ex. 15, ¶ 88; *see also Diebold Nixdorf, Inc. v. Int'l Trade Comm'n*, 899 F.3d 1291, 1298-1300 (Fed. Cir. 2018) (reversing the ITC and holding that "cheque standby unit" was a means-plus-function term and explaining that "modifying the word 'unit' with the words 'cheque' and 'standby' or by specifying the location of the 'cheque standby unit'" did not import "sufficient structure" to the "cheque standby unit"); *see also Williamson*, 792 F.3d at 1350-51 ("The prefix 'distributed learning control' does not impart structure into the term 'module.' These words do not describe a sufficiently definite structure.").

This Court has recognized on multiple occasions that "unit" can be a means-plus-function limitation. *See, e.g.*, *Finesse Wireless LLC v. AT&T Mobility LLC*, 2022 WL 3686478 at *10-11 (E.D. Tex. Aug. 24, 2022) ("sampling unit" and "cancellation unit" are means-plus-function even though words "cancellation unit" are used in the patent specification); *Saint Lawrence Commc'ns LLC v. ZTE Corp.*, 2016 WL 6275390 at *18-19, *21-22 (E.D. Tex. Oct. 25, 2016) ("spectral shaping unit," "convolution unit," and "pitch search unit" all means-plus-function); *Huawei Techs. Co. Ltd v. T-Mobile US, Inc.*, 2017 WL 2267304 at *14-19 (E.D. Tex. May 24, 2017) ("identifying

unit" was a means-plus function limitation while "obtaining unit" and "processing unit" were not).[4]

XR raises two responsive arguments. <u>First</u>, XR argues that the Central District of California previously construed this term as not being means-plus-function. Op. Br. at 11-13. Defendants respectfully submit that the California court misapplied the law. For example, the court there relied heavily on the Federal Circuit's decision in *Skky, Inc. v. MindGeek, s.a.r.l.*, 859 F.3d 1014 (Fed. Cir. 2014), where the Federal Circuit affirmed that "wireless device means" was not means-plus-function. Ex. 5 at 7; Ex. 6 at 42-43. However, the Federal Circuit in *Skky* made explicit reference to the fact that the claims there "do not recite a function or functions for the wireless device means to perform." *Skky*, 859 at 1020. A claim limitation cannot be means-plus-*function* if there is no function.

Indeed, the California court appears to have only applied the first prong of the *Williamson* standard and only considered whether the term recites "sufficiently definite structure" without considering whether the claim term "recites sufficient structure for performing that function." Ex. 5 at 6-8 (only considering whether the "wireless I/O unit" connotes structure). XR makes the same argument here: that this Court should only consider whether "wireless I/O unit" connotes structure. But this argument suffers a fatal flaw: the Federal Circuit rejected this proposition when XR made this argument for a different patent. *See XR Commcn's, LLC v. ARRIS Solutions, Inc.*, 2023 WL 3529830, at *2-3 (Fed. Cir. May 18, 2023). The Court noted:

> [XR] argues that the district court asked the wrong question. According to [XR], the court shouldn't have asked whether a POSITA would have understood "search

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[4] XR cites to another *Huawei* decision, where this Court found that the terms "receiving unit," "sending unit," and "storage unit" were not means-plus-function limitations. Op. Br. at 13 (citing *Huawei Techs. Co. Ltd. v. T-Mobile US, Inc.*, 2017 WL 1376436 at *15-17 (E.D. Tex. Apr. 15, 2017)). There, the Court found that a POSA would understand the necessary structure of the unit terms from the specification and also that the claim language described the inputs and outputs of the components and what "they 'receive,' 'send,' or 'update,' respectively." *Id.* at *16.

receiver logic" as structure for *updating said routing information*; instead, it should have asked only whether a POSITA would have understood "search receiver logic" as structure—period[.] We disagree. [XR]'s argument simply fails to meaningfully reckon with this court's precedent, including *Williamson*'s en banc articulation of the legal standard and *Egenera*. Given this precedent, we conclude that the district court properly asked whether a POSITA would understand the disputed term not just as structure, but as sufficient structure "for performing [the claimed] function." *Williamson*, 792 F.3d at 1348-49.

Id. at *2. The Federal Circuit rejected the argument that, if a claim term connotes structure, the inquiry ends. Rather, precedent "compels rejecting" XR's "position that § 112, ¶ 6, is avoided by reciting something that a POSA would understand as structure – even if a POSITA wouldn't understand it as sufficient structure *for performing the claimed function*." *Id.* at *3.

Second, XR argues that the specification discloses structure for the wireless I/O unit. Op. Br. at 13-14. For example, XR argues that the specification discloses a wireless I/O unit 206 and that this wireless I/O unit may have an antenna array for transmitting/receiving signals. Op. Br. at 13-14 (citing '939 Patent at 4:17-23). But even if XR was correct on the facts (it is not, as described below) the law is clear that whether "the specification discloses a structure corresponding to an asserted means-plus-function claim term does not necessarily mean that the claim term is understood by persons of ordinary skill in the art to connote a specific structure or a class of structures." *MTD Prods. Inc. v. Iancu*, 933 F.3d 1336, 1344 (Fed. Cir. 2019); *see also Team Worldwide Corp. v. Intex Recreation Corp.*, 2021 WL 4130634, at *6 (Fed. Cir. Sep. 9, 2021) ("the Board did not err in relying on *MTD Products* to conclude that any structure arguably disclosed in the specification via an embodiment cannot support a finding that the claim term itself connotes a specific structure" where "nothing in the specification provides a structural definition for the 'pressure control assembly' or indicates the patentee acted as a lexicographer to define the term."); *Canon, Inc. v. TCL Elecs. Holdings Ltd.*, 2020 WL 2098197 at *25-26 (E.D. Tex. May 1, 2020) (*citing MTD Products* and explaining "That the patent specification discloses an example

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of a communication unit or a connection unit in the specification . . . does not by itself impart structural significance to the nonce 'unit' terms" and holding that "connection unit," "detection unit," "acquiring unit," and "determining unit" were means-plus function).[5]

XR is also wrong on the facts. As Mr. Proctor explains, this disclosure of an antenna array is in the context of the Figure 2 embodiment, which shows no structure for the claimed "establishing a plurality of access points" and is not even associated with that function. Ex. 15, ¶¶ 92-93. Although an antenna array may be able to transmit and receive signals, nothing in the specification suggests that this is the same as establishing multiple access points. *Id.* The only place in the specification where the function "establishing" access points is mentioned is in the context of Figure 4, where an access station establishes multiple access points. *Id.*, ¶ 94. But Figure 4 recites no specific structure at all.   Instead, it shows wireless I/O unit 206 and signal transmission/reception logic 404. This logic (discussed below) "may be implemented as hardware, software, firmware, some combination thereof, and so forth." Ex. 2, 5:30-37. Finally, while the Figure 6 embodiment states that the "wireless I/O unit 206" "may correspond to MACs 604, MAC coordinator logic 606, BB units 608, and RF parts 610," the description of the Figure 6 embodiment makes no mention of the claimed function at all, and the MAC coordinator logic "may be implemented as hardware, software, firmware, some combination thereof, and so forth." *Id.*, 6:60-62, 7:18-20; Ex. 15, ¶ 110.

2. The Specification Does Not Disclose Corresponding Structure for the "wireless input/output (I/O) unit"

After determining the claimed function, the Court must "determine what structure, if any

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[5] The Court in *Canon* found that "control unit," "display control unit," and "controlling unit" were not means-plus-function based on Plaintiff's expert's testimony that the "control unit" is a processor that performs the claimed functions. *Id.*, at *15-16. There is no such testimony here.

disclosed in the specification corresponds to the claimed function." *Williamson*, 792 F.3d at 1351. The '939 Patent lacks any such disclosure. The specification (i) does not disclose the recited function, and (2) only discloses a "black box" for wireless input/output (I/O) unit.

First, the specification does not disclose the function "establish a plurality of access points."[6] Instead, it merely repeats it. As Mr. Proctor explains, the '939 Patent never explains what it means to "establish" one or more access points: it simply assumes that the access points are established. Ex. 15, ¶ 100. For example, the Figure 4 embodiment describes a wireless I/O unit 206 that "establishes two or more access points." Ex. 2, 5:38-40. However, the specification's only disclosure of the function of the "wireless input/output (I/O) unit" is to repeat the function. Ex. 15, ¶ 100. The Figure 4 embodiment, like the rest of the specification, does not explain how an access point is established. Ex. 15, ¶ 108. *See Augme Techs., Inc. v. Yahoo! Inc.*, 755 F.3d 1326, 1337 (Fed. Cir. 2014) ("[T]he specification must disclose an algorithm for performing the claimed function…it cannot merely restate the function recited in the claim.").

Second, while the specification refers to a "wireless input/output (I/O) unit 206" in the Figure 2, 4, and 6 embodiments, these embodiments do not disclose any structure for performing the function "establish a plurality of access points." For example, the Figure 2 embodiment discloses a wireless I/O unit that includes an antenna array 208, and that this antenna array "is capable of transmitting and/or receiving" wireless signals. Ex. 2, 2:53-56, 4:17-23. As Mr. Proctor explains, the Figure 2 embodiment does not disclose performing the function "establish a plurality of access points." Ex. 15, ¶¶ 104-106. The only structure associated with the wireless I/O unit 206

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[6] The parties do not dispute that, if this term is a means-plus-function limitation, the claimed function is "establish a plurality of access points."

in Figure 2, the antenna array 208 "cannot establish an access point itself (which is a device)." Ex. 15, ¶ 106.

Further, the Figure 4 embodiment only discloses that wireless I/O unit 206 "includes or is associated with signal transmission/reception coordination logic 404" and that "such logic may be implemented as hardware, software, firmware, some combination thereof, and so forth." Ex. 2, 5:30-37. But, as discussed above, the Figure 4 embodiment does not disclose how either the wireless I/O unit or the signal transmission/reception coordination logic 404 would establish a plurality of access points. Ex. 15, ¶¶ 107-108.

Finally, although the Figure 6 embodiment discloses medium access controllers (MACs) 604, MAC coordinator logic 606, baseband (BB) units 608, and radio frequency (RF) parts (Ex. 2, 2:65-67, 6:54-60), it never explains what it means to establish a plurality of access points. Instead, the specification merely states that the wireless I/O unit 206 may "correspond to MACs 604, MAC coordinator logic 606, BB units 608, and RF parts 610," and may further include "one or more of Ethernet switch/router 602, beamformer 612, and antenna array 208." Ex. 2, 6:60-64; Ex. 15, ¶¶ 109-112.

In sum, the structure proposed by XR, wireless input/output (I/O) unit 206, is not a corresponding structure both because (1) the '939 Patent does not disclose the recited function, and (2) the disclosure of wireless I/O unit is a black box. The '939 Patent confirms the black box nature of this disclosure: "the components of FIGS. 2, 4, 6, 8, and 10-13…may be implemented fully or partially as one or more processors and/or as one or more media. Such processors may be general purpose microprocessors, special-purpose digital signal processors, some combination thereof, and so forth. Such media may be transmission or storage media, volatile or non-volatile memory, programmable or hard-wired coding, some combination thereof, and so forth." Ex. 2,

18:56-19:7; Ex. 15, ¶¶112-113. "Simply disclosing a black box that performs the recited function is not a sufficient explanation of the algorithm required to render the means-plus-function term definite." *Augme Techs.*, 755 F.3d at 1338; *see also Fiber, LLC v. Ciena Corp.*, 792 F. App'x 789, 795-796 (Fed. Cir. 2019) (affirming ruling that term "control" was indefinite under § 112, ¶ 6, where patent only disclosed a black box labelled "control" without any description of structure).

> **C.** **"signal transmission/reception coordination logic"**
>
> **1.** **"signal transmission/reception coordination logic" Is a Means-Plus-Function Limitation**

This limitation similarly replaces the term "means" with "logic," and then recites the functions performed by the "logic." Like the term "module" in *Williamson*, "logic" is a well-known nonce word that does not connote sufficiently definite structure and can operate as a substitute for "means." *See, e.g.*, *Egenera*, 972 F.3d at 137 ("As used, 'logic' is no more than a 'black box recitation of structure' that is simply a generic substitute for 'means.'"); *Tracktime, LLC v. Amazon.com*, 2021 WL 2823163, at *6 (D. Del. July 7, 2021) ("By itself, 'logic' connotes no more definite structure than 'executable program code' and thus does not remove the disputed terms from means-plus-function claiming."). Nor does the prefix "signal transmission/reception coordination" impart any structure, as it merely describes the function of the "logic." *Cf. Rain Computing, Inc. v. Samsung Elecs. Am., Inc.*, 989 F.3d 1002, 1006 (Fed. Cir. 2021) ("Nor does the prefix 'user identification' impart structure because it merely describes the function of the module: to identify a user.").

The '939 Patent specification confirms this by describing the "signal transmission/reception coordination logic 404" of Figure 4, stating that this "logic may be implemented as hardware, software, firmware, some combination thereof, and so forth." Ex. 2, 5:35-37. *See Egenera*, 972 F.3d at 1374 (where patentee argued that "logic" denoted "software,

firmware, circuitry, or a combination thereof," this amounted to a "general category of whatever may perform the function."). XR makes no mention of this passage from the specification.

Further, "signal transmission/reception coordination logic" is not a standard term used in the art, but rather appears to be a term that the patentee coined to describe a component in the '939 Patent. Ex. 15, ¶¶ 121–123; *see also Egenera*, 972 at 1373 ("[A] term may amount to a coined 'nonce word'—that is, a word 'invented . . . for one occasion only.'").

Indeed, in XR's case in the Northern District of California, 35 U.S.C. § 112, ¶ 6 was applied to a very similar "logic" limitation in a different XR patent. There, the asserted patent defined logic as "hardware, firmware, software, or any combination thereof that may be implemented to perform logical operations associated with a given task." *XR Commc'ns, LLC v. Ruckus Wireless, Inc.*, 2021 WL 3918136, at *7 (N.D. Cal. Sept. 1, 2021). The court held "search receiver logic…configured to update said routing information" is a means-plus-function limitation. *Id.*, at *10. The Federal Circuit affirmed. 2023 WL 3529830.

XR raises two arguments in opposition. <u>First</u>, XR argues that the court in the Western District of Texas construed this term as not being subject to § 112, ¶ 6. Op. Br. at 17. But the Western District did not issue a written opinion and, therefore, it is impossible to know its reasoning. Notably, the Central District of California construed the exact same term on the exact same record. Ex. 6 (Special Master R&R) at 49-52. XR did not object to its conclusion that § 112, ¶ 6 does apply to the term. Ex. 5 at 8 ("Neither side objects to the finding in the R&R that the term 'signal transmission/reception coordination logic' is a means-plus-function term").[7]

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[7] As discussed above, the Central District of California misapplied *Williamson* and focused only on whether the words connoted structure without any reference to the claimed function. However, this unduly narrow test further confirms that "signal transmission/reception coordination logic" is a means-plus-function term.

Second, XR argues that a passage in the specification regarding a *possible* implementation of the signal transmission/reception coordination logic 404 meant that the term recites sufficiently definite structure. Op. Br. at 17-19. XR specifically argues that the specification states "signal transmission/reception coordination logic 404 may be implemented at the baseband layer in a system that utilizes off-the-shelf chips in which MAC and baseband functionality are integrated into a single chip or chips that may not separately expose desired MAC signal(s) (e.g., MAC primitives)." *Id.* at 17 (*citing* '939 Patent at 18:39-44). That the '939 Patent discloses a possible implementation of the signal transmission/reception coordination logic 404 does not mean that the term is not means-plus-function. *See Canon, Inc. v. TCL Elecs. Holdings Ltd.*, 2020 WL 2098197 at *25-26 (E.D. Tex. May 1, 2020) (*citing MTD Products*; "That the patent specification discloses an example of a communication unit or a connection unit in the specification…does not by itself impart structural significance to the nonce 'unit' terms"). And it does not negate the '939 Patent's express statement that the "signal transmission/reception coordination logic" can be "implemented as hardware, software, firmware, some combination thereof, and so forth." Ex. 2, 5:35-37.

XR then appears to argue that the claimed functions are performed by off-the-shelf chips in an effort to analogize this case to *Dyfan v. Target Corp.*, 28 F.4th 1360 (Fed. Cir. 2022). In *Dyfan*, however, the Federal Circuit reversed the district court's application of § 112, ¶ 6 for "code" limitations because extrinsic evidence showed that "the recited functions can be performed by conventional off-the-shelf software." *Id.* at 1369. However, no such extrinsic evidence exists here, and the '939 Patent does not go nearly as far as XR suggests: it does not say that the claimed functions are performed *by* off-the-shelf chips.[8] Ex. 2, 18:39-44 (stating that the logic "may be

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[8] If it did, the claims would be anticipated by those same prior art chips.

implemented" in a "system that utilizes off-the-shelf chips"). The '939 Patent then describes a possible way to implement the claimed logic. *Id.* at 18:45-55.

2. Functions of the "signal transmission/reception coordination logic"

For the '939 Patent, the asserted claims specify numerous functions that are performed by the "signal transmission/reception coordination logic." *See* Dkt. 76 (JCCS), at 7-10; Ex. 15, ¶¶ 114–118 (describing the functions performed by the "logic" terms). In particular, independent claims 15 and 30 require that the logic restrains an access point from transmitting on one channel, in response to ascertaining that a different access point is receiving on a different channel:

- "restrain[ing] at least a third access point of the plurality of access points from transmitting a third signal on a ***third channel*** responsive to the ascertaining that the first access point is receiving the first signal and that the second access point is receiving the second signal that is ongoing-on the ***second channel***" (claim 15)

- "restrain[ing] at least a second access point of the plurality of access points from transmitting a second signal on a ***second channel different*** from the ***first channel*** responsive to the ascertaining that the first access point is receiving the first signal" (claim 30)

This requirement of ascertaining transmission on one channel, in response to ascertaining reception on a different channel, was the basis for the examiner determining the claims were allowable. Ex. 16 (July 16, 2012 Notice of Allowance).

3. The '939 Patent Discloses No Corresponding Structure for the "signal transmission/reception coordination logic"

The '939 Patent discloses no structure that performs these functions; it only ever restates the claimed functions. Indeed, the '939 Patent's disclosure of restraining on a different channel only ever appears in one paragraph, which states:

> With reference again to FIG. 4, one access point 402 (and/or communication beam 202) may operate on a different channel from that of another access point 402 (and/or communication beam 202). If the different channels are adjacent and/or not sufficiently-well defined, it may be beneficial to restrain transmission on a first channel with a first access point 402 even when receiving a wireless communication on a second different channel with a second access point 402. In

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another exemplary implementation for different channel situations, signal transmission/reception coordination logic 404 may restrain transmission on one channel on the basis of reception on another channel with an ongoing transmission on a third channel to prevent (e.g., inter-modulation) distortion to the signals being communicated in the wireless system.

Ex. 2, 6:19-53.

That is not disclosure of adequate structure. It merely restates the claimed functionality, without any implementation of how to implement it or what it involves. Ex. 15, ¶ 135. This paragraph does make reference to Figure 4, but Figure 4 recites no structure at all: it simply depicts "signal transmission/reception coordination logic 404" as a rectangle with connections to various access points 402. The associated flow chart in Figure 5 simply restates functions to be performed, but does not even restate the claimed functions and does not show the claimed restraining *on a different channel*. Ex. 15, ¶ 136. *See Augme Techs.*, 755 F.3d at 1338 ("Simply disclosing a black box that performs the recited function is not a sufficient explanation of the algorithm required to render the means-plus-function term definite.").

In response, XR's proposes a structure that has two parts: signal transmission/reception coordination logic 404 and MAC coordinator logic 606. Neither are sufficient structure for performing the claimed function. Ex. 15, ¶¶ 133-140. First, the signal transmission/reception coordination logic 404 is just a restatement of the claim term itself. While the claim term is referenced in the context of Figures 4, 5, and 10, these figures do not recite any structure, much less corresponding structure. In addition to the above discussion of Figures 4 and 5, Figure 10 only has two functional components: receive information combiner 1002 and receive information selector 1004. Ex. 15, ¶¶ 137-139. As Mr. Proctor notes, the specification provides no explanation as to what either is, and a POSA would not know what structure performs their functions. Ex. 15, ¶ 139.

XR's other proposed structure, MAC coordinator logic 606, also is not corresponding structure. XR takes the position that MAC coordinator logic 606 is "subsumed within the corresponding structure of the signal transmission/reception coordination logic 404," but XR provides no support for this assertion. Op. Br. at 15-16. Further, the specification explains that, like signal transmission/reception coordination logic 404, MAC coordinator logic 606 can be anything at all and "may be implemented as hardware, software, firmware, some combination thereof, and so forth." Ex. 2, 7:18-20.

The specification also never describes the MAC coordinator logic 606 as performing the claimed functions, *i.e.*, it is not clearly linked corresponding structure. For example, in referring to Figure 6, the specification only ever states that the MAC coordinator logic 606 "coordinate[s] the activities of the multiple MACs . . . with regard to at least one non-associated respective BB unit 608." *Id.*, 7:11-18. The specification then explains that "if BB unit 608(2) indicates that it is receiving a packet, MAC coordinator logic 606 instructs MACs 604[] so as to restrain them from causing a packet transmission during the packet reception." *Id.*, 9:11-20. This disclosure does not disclose performing the recited functions, namely "ascertaining reception by a first access point on a first channel and restraining transmission by a second access point on a second channel." Ex. 15, ¶¶ 142-143. The MAC coordinator logic also is discussed in Figure 8, but this embodiment discloses a different claimed function, *i.e.*, restraining on the same channel in response to ascertaining reception on a first channel. Ex. 15, ¶¶ 144-145.

Turning to XR's five arguments for why the specification discloses corresponding structure, none remedy the lack of disclosure of any structure that performs the claimed function of restraining on a different channel. First, XR argues that the Court in the Central District of California found that the term had corresponding structure and was not indefinite. Op. Br. at 19-

23. Defendants respectfully submit that the California court misread the '939 Patent specification and, as discussed at length above, did not address whether the specification discloses corresponding structure for restraining *on a different channel*, as explained above.

Second, XR argues that signal transmission/reception coordination logic 404 is not a black box because of the specification makes a statement that "informs a POSITA that the signal transmission/reception coordination logic 404 is a baseband circuit structure that is implemented in an off-the-shelf baseband and MAC chipset." Op. Br. at 21. The cited specification merely says that the logic "may be implemented at the baseband layer in a system that utilizes off-the-shelf chips . . ." Ex. 2, 18:39-44. Elsewhere, the specification says that the logic "may be implemented as hardware, software, firmware, some combination thereof, and so forth.*" Id*., 5:35-37. In either case, these generic statements about baseband processors and MAC chipsets do not remedy the structural hole in the specification with respect to identifying what performs the claimed function and XR cites to no evidence to support its proposition. *Medtronic, Inc. v. Adv. Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1312-13 (Fed. Cir. 2001) (rejecting proposition that alleged corresponding structure was "capable of" performing the claimed function because there was no "clear link or association" between the function and the alleged structures).

Third, XR argues that the signal transmission/reception logic 404 is not a black box because, according to XR, the specification discloses the inputs to and outputs of the logic 404. Op. Br. at 21. According to XR, the specification also discloses specific physical components with which the signal transmission/reception coordination logic 404 interacts. Op. Br at 22. What XR describes is the definition of a black box. Ex. 20 (McGraw Hill Dictionary of Scientific and Technical Terms) (defining "black box" as "Any component, usually electronic and having known

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input and output, that can be readily inserted into or removed from a specific place in a larger system without knowledge of the component's detailed internal structure.").

Fourth, XR argues that the specification describes how the logic 404 maintains a numbered list of access points and further discloses (in Figure 10) restraining on a different channel. Op. Br at 22. However, Figure 10 never discloses restraining on a different channel and, as Mr. Proctor explains, Figure 10 does not disclose any structure. Ex. 15, ¶¶ 137-139.

Fifth, XR argues that the MAC coordinator logic 606 could be implemented to perform the claimed function. As discussed above, however, the specification never discloses the MAC coordinator logic 606 performing the act of restraining on a different channel.

Accordingly, this term is indefinite.

D.   "responsive to the ascertaining that the [access point] is receiving the [signal] . . ."

This phrase, which appears in similar form in both asserted independent claim of the '939 Patent, specifies when to "restrain" transmission, *i.e.*, in response to ascertaining that another access point is receiving. For example, claim 30 requires "logic . . . that is adapted to *restrain at least a second access point . . . from transmitting a second signal . . . responsive to the ascertaining that the first access point is receiving* the first signal." As explained in Defendants' Technology Tutorial, this relationship between the reception and transmission of signals was necessary to avoid interference between the two in the Little Joe product.

Defendants' construction clarifies the direct relationship between (i) restraining transmission (ii) in and response to ascertaining that another access point is receiving. That is, one access point is restrained from transmitting when another access point is ascertained to be receiving, in order to mitigate interference (described in the '939 Patent as "bleedover between access points," Ex. 2, 5:48–51, or "thrashing," *id.*, 8:66–9:4). Both independent claims (15, and

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30) recite that "restraining" is done "responsive to the ascertaining that the [access point] *is receiving*" a signal. That is, they use the present progressive tense ("is receiving") to indicate that the reception of a signal is a presently occurring action. The claim by its plain language and consistent with the specification requires that transmission must be restrained while a signal is being received. While the relationship between restraining and ascertaining reception is self-evident in the claims, XR's infringement contentions divorce those two concepts, thus dictating the need for the construction and/or guidance from the Court.

The specification is consistent with and reinforces Defendants' construction. It consistently describing the restraining as taking place while the signal is being received:

- "Generally, signal transmission/reception logic 404 coordinates uplink signal receptions and downlink signal transmissions across different access points 402 *so as to avoid or at least reduce the frequency at which downlink signals are transmitted at a first access point 402(y)* **while** *uplink signals are being received at a second access point 402(x)*." *Id.*, 5:58–64.

- "In a described implementation, signal transmission/reception coordination logic 404 *may restrain access points 402(2 . . . N) from transmitting signals* **until** *access point 402(1)* **ceases** *receiving the signal*." *Id.*, 6:35–38.

- "If the different channels are adjacent and/or not sufficiently-well defined, it may be beneficial to *restrain transmission on a first channel* with a first access point 402 even **when** *receiving a wireless communication on a second different channel with a second access point 402*." *Id.*, 6:42–46.

- "These constructive receive indicators [. . .] are provided to MACs 604(1, 2 . . . 13), respectively, so that MACs 604(1, 2 . . . 13) do not cause BB units 608(1, 2 . . . 13) to transmit a signal **while** *another signal is being received*." *Id.*, 11:39–42

This is consistent with the patent's objective of avoiding interference (or "thrashing") between downlink signal transmissions and uplink signal receptions. The patent explains that such thrashing may occur "when the reception and transmission occur on the same channel (or adjacent or otherwise sufficiently proximate channels with imprecise channel boundaries)." *Id.*, 8:66–9:4. In other words, "an incoming packet reception…can be rendered unsuccessful by an outgoing

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packet transmission…that occurs on the same [or sufficiently proximate] channel…and is *temporally* overlapping." *Id.*, 9:4–10 (emphasis added).

XR's arguments in response boil down to two concepts: (1) that the claims cover restraining in response to previously received signals, and (2) that the claims cover "restraining" in response to something other than "ascertaining . . . ." Op. Br. at 25-27. XR's first set of arguments (*see id.* at 25-26), that the claims cover restraining in response to signals already received, makes no sense in the context of the claims, the '939 Patent specification or the provisional applications to which it claims priority. For example, the '939 Patent explains that it seeks to prevent the "thrashing of signals (e.g., packets)," which it also refers to as "packet collisions" by "coordinating the release of downlink packets with the reception of uplink packets." Ex. 18 ('696 Provisional) at A-48 (explaining that the Little Joe AP that is the basis of XR's priority claim enforced a "one transmitter at a time rule" and further explaining that "transmitting a downlink packet on one radio would destroy any uplink packets being received simultaneously on another radio").

XR's position that the claims cover "restraining" based on the past reception of signals or "past data" also makes no sense in the context of the problem the '939 Patent attempts to solve. That is to say, stopping downlink transmission based on an already completed uplink signal does nothing for the collision management that is the goal of the '939 Patent. Indeed, XR argued to the USPTO that the invention in question did not cover making predictive assignments based on predicted interference. Ex. 17 (Jan. 30, 2012 Office Action Response) at 10 ("the coordination logic of claim 9, *ascertains by monitoring* the plurality of access points, that one access point *is receiving* a signal and in response restrains a second access point from transmitting an interfering

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signal.") (first emphasis in original; second emphasis added).[9] In other words, the claims describe restraining transmission of a signal that will interfere with the signal that is being received. Indeed, the Applicant expressly distinguished art that "predict[ed] when interfere will occur, and preemptively prevent[ed] interference by . . . stop[ping] transmission." *Id.*

Further, XR argues that Defendants' construction would read out embodiments "where the restraining occurs after the ascertaining." But XR points to no such embodiments – all it does is make unsupported attorney argument about how the Figure 11 embodiment somehow "must" require some kind of waiting. Op. Br. at 26. Layering attorney conjecture upon more attorney conjecture, XR states – without any support – that a POSA would somehow understand that Figure 11 would have some logic that waits some amount of time, and that this "understanding" somehow contradicts Defendants' construction, the provisional application, and the problem statement of the '939 Patent. But this argument amounts to nothing more than XR's counsel testifying, and the Court should disregard it accordingly.

XR's second set of arguments (*see id.* at 26-27) are that the claims claim something other than "ascertaining . . . is receiving." For example, XR describes what it calls the "periodic monitoring embodiment" according to which channel assignments can be made based on the likelihood of cross-channel interference. Op. Br. at 26-27. To the extent the cited paragraph refers to an embodiment, it is not an embodiment of restraining transmission responsive to ascertaining a different access point is receiving a signal. Instead, this paragraph discusses channel assignment based on measuring interference levels, whether periodic, continuous or otherwise. Ex. 2, 13:34-66 (describing scanning logic measuring interference and never describing an ascertaining that an access point receiving a signal).

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[9] Pending claim 9 issued as claim 1, which has a similar limitation to asserted claim 30.

Likewise, XR's argument that the claims cover "predicting what each access point is expected to receive in the future based on what is ascertained about received signals in the past" (Op. Br. at 27) is not supported by the plain language of the claims or the specification. To support its argument, XR directs the Court to Ex. 2 at 17:18-32, which relates to Fig. 11. First, this excerpt refers to restraining an access point transmission when a client is awaiting an immediate response from another access point. The claims, however, cover a different scenario involving transmission and reception at two access points; not an access point and a client. Second, the excerpt refers to restraining transmission on one access point when another access point "is expecting an immediate response to a frame that was transmitted by it." Ex. 2, 17:23-29. In other words, such restraining is done in response to an access point having transmitted a signal and expecting an immediate response, such as an acknowledgement frame. That is exactly what _unasserted_ claim 23, which XR cites, describes. *Id.*, cl. 23 ("restrains transmission from at least two access points when another access point is expecting a short-term response to a frame that was transmitted by said other access point").[10] In other words, this embodiment is claimed elsewhere.

E.   "the access point"

Claims 20-21 (which depend from claim 15) refer to "the signal received by the access point."[11] There is no antecedent basis for *the* access point, which could refer to either the first or second access points in claim 15, both of which are claimed to be receiving signals. *SOL IP, LLC v. AT&T Mobility LLC*, 2020 WL 60141 at *42-43 (E.D. Tex. January 5, 2020) (finding that "the lack of antecedent basis render[ed] [the disputed claim] indefinite because the meaning [wa]s not

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[10] XR argues that claim 23 recites "ascertaining that the access point of the plurality of access points is receiving the signal on a second different channel" and "when this 'access point is expecting a short term response to a frame.'" Op. Br. at 27. These are two separate limitations in unasserted claim 23 and these distinct limitations do not have an import in the present dispute.

[11] Defendants withdraw their indefiniteness argument with respect to the access point referenced in claims 33-34 (which depend from claim 30).

reasonably ascertainable in the light of the intrinsic evidence."). It would be impossible for a POSA to ascertain which of the first or second access points is the claimed access point that is receiving the signal to which claims 20 and 21 refer. *See Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1371 (Fed. Cir. 2015) ("a claim is indefinite if its language might mean several different things and no informed and confident choice is available among the contending definitions.").

XR raises two arguments in support of its position that the "access point" refers back to "a first access point." <u>First</u>, XR argues that the court in the Central District of California found that the access point had an antecedent basis. Op. Br. at 27-28. But claims 20 and 21 were not before the California Court and therefore, this argument is inapposite. Ex. 6 at 66 (listing claim terms). <u>Second</u>, XR argues that an unrelated third party Petitioner was able to map the claims in an IPR Petition involving the '939 Patent. However, a Petitioner may not raise indefiniteness in an IPR and Petitioners frequently raise prior art invalidity challenges for claims they believe to be indefinite if the prior art can be mapped to all possible permutations of the indefinite limitation. In any case, a third party's extrinsic litigation position is not the type of extrinsic evidence on which a POSA would rely to remedy an ambiguity.

IV.   THE '235 PATENT

A.   "transceiver"

The '235 Patent has a sibling patent, the '376 Patent, which was previously asserted during this litigation. The two patents have the same patent specification. XR's statements made during prosecution of the '376 Patent are part of the intrinsic record that would be considered by a POSA.[12] *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 798 F.3d 1335, 1343 (Fed. Cir. 2015) ("[a]

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[12] The legal question in determining whether a patentee's statements made during prosecution applies in such circumstances is whether the "statements from prosecution of a familial patent

statement made during prosecution of related patents may be properly considered in construing a term common to those patents, regardless of whether the statement pre- or post-dates the issuance of the particular patent at issue."). Similarly, any statements made by XR during IPR proceedings are part of the intrinsic record. *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1359-60 (Fed. Cir. 2017) (citation omitted) (extending the prosecution disclaimer doctrine to IPR proceedings to "promote the public notice function of the intrinsic evidence and protect[] the public's reliance on definitive statements made during IPR proceedings"); *see also CUPP Computing AS v. Trend Micro Inc.,* 53 F.4th 1376, 1383 (Fed. Cir. 2022) ("a disclaimer in an IPR proceeding is binding in later proceedings, whether before the PTO or in court").

During an IPR petition involving the '376 Patent, XR argued to the USPTO that "[u]nder its plain and ordinary meaning, 'transceiver' refers to a single unit comprising a transmitter and a receiver, with common circuit components for transmitting and receiving." Ex. 19 (IPR 2022-00613 Patent Owner Response) at 29. That is exactly the construction that Defendants advocate for here. XR's statements about the same claim language are part of the intrinsic record that would necessarily be considered by a POSA. XR may not argue its claims one way to maintain patentability and a different way to establish infringement. *Aylus Networks, Inc.*, 856 F.3d at 1360. Defendants' construction is consistent with the plain and ordinary meaning of transceiver and captures XR's statements to the USPTO, which are informative of the meaning of this term.

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relat[es] to the same subject matter as the claim language at issue in the patent being construed." *Ormco Corp. v. Align Tech.*, 498 F.3d 1307, 1314 (Fed. Cir. 2007). Even if the Court does not find that such statements rise to the level of disclaimer, they are still relevant as part of the intrinsic record. *Iridescent Networks, Inc. v. AT&T Mobility, LLC*, 933 F.3d 1345, 1352-1353 (Fed. Cir. 2019) ("[a]ny explanation, elaboration, or qualification presented by the inventor during patent examination is relevant, for the role of claim construction is to 'capture the scope of the actual invention' that is disclosed, described, and patented" regardless of whether the statement amounts to a disclaimer) (citation omitted).

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V.   THE '511 PATENT

A.   "n multiple-input multiple-output transceivers (MIMO)"

As discussed immediately above, XR argued that the PTAB should adopt a plain and ordinary meaning of transceiver that is consistent with Defendants' construction here. *See* §IV.A, *supra*. And while XR's statements are part of the extrinsic record as to the '511 Patent (because that patent is not part of the '376 Patent family), it is the very type of extrinsic record that would be highly informative to a POSA, given the overlap of inventors and assignees for the two patents.[13] Furthermore, XR's statements were about the understanding of a POSA and not limited to any patent specification. For example, XR cited a number of dictionary definitions in support. Exs. 22, 23 (dictionary definitions). Indeed, Vivato's expert in the '376 IPR even went so far as to expressly admit that "a combination of a transmitter with an unrelated receiver . . . is not a 'transceiver.'" Ex. 21 (Vojcic 376 IPR Dec), ¶ 67. Defendants' construction simply captures the plain and ordinary meaning that XR urged to the USPTO.

B.   "MIMO transmitter" / "MIMO receiver"

For these terms, the parties appear to agree that transmitters and receivers process signals to be transmitted and received, respectively. This is consistent with the claims, which explicitly refer to that processing. The parties further agree that the claim terms at issue are not merely transmitter and receiver, they are MIMO transmitter and MIMO transceiver. Defendants contend that the "MIMO" modifier cannot be disregarded and conveys to a POSA that the signals to be processed are MIMO signals to be transmitted or received. This is consistent with the intrinsic

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[13] *Northeastern Univ. v. Google, Inc.*, 2010 U.S. Dist. LEXIS 118977 at *16-17 (E.D. Tex. November 9, 2010) (finding that the prosecution history of an unrelated patent should be treated as extrinsic evidence); *see also Esco Grp. LLC v. Deere & Co.*, 2022 WL 1025967 at *11 (D. Del. April 6, 2022) (statements made during prosecution of an unrelated patent amount to extrinsic evidence).

record. *See, e.g.*, Ex. 3 at Fig. 1; 3:32-35 ("In some implementations, the received signal is configured in accordance with MIMO, although signals other than MIMO may be used as well."). XR appears to concede that this is consistent with, but nevertheless and "superfluous to" the plain language of the claims. To the extent that the parties agree that MIMO transmitter and MIMO receiver process MIMO signals for transmission and reception, respectively, a construction may not be necessary. However, to the extent there is no agreement, the parties appear to have a dispute under *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co*., 521 F.3d 1351 (Fed. Cir. 2008), according to which XR is reading out of the claims the modifier "MIMO."

C. "2nd Generation Partnership Project (3GPP) Long Term Evolution (LTE), 3GPP LTE-Advanced, 3GPP LTE-TDD, 3GPP LTE-FDD, High Speed Packet Access (HSPA), and HSPA+"

The claims require that a system "substantially comply" with "one or more" industry standards. However, the claims do not refer to standards as of a particular time and these standards have changing requirements. XR's position appears to be that the claims refer to any and all standards regardless of when they were created, but this Court has consistently held that terms involving industry specifications must be interpreted to mean the standard "that existed at the time of the claimed invention." *BillJCo, LLC v. Cisco Sys., Inc.*, 2022 WL 782740, *5 (E.D. Tex. Mar. 14, 2022) (claimed "Bluetooth communications interface" constructed to be limited to "Bluetooth standards that existed at the time of the claimed invention. This is consistent with how this Court and other courts have construed similar terms involving industry specifications.") (internal quotations omitted; collecting cases). Moreover, XR already lost this same argument in the Central District of California, in which the court recognized, "[a] claim cannot have different meanings at different times; its meaning must be interpreted as of its effective filing date." Ex. 6 at 37 (*citing PC Connector Solutions LLC v. SmartDisk Corp.*, 406 F.3d 1359, 1363 (Fed. Cir. 2005)).

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that counsel of record who are deemed to have consented

to electronic service are being served with a copy of this document via the Court's CM/ECF system

per Local Rule CV-5(a)(3) on August 12, 2024.

/s/ Melissa R. Smith
Melissa R. Smith

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